

CLAIMS

What is claimed is:

1. A system for enabling a user to access a local area network from a remotely located host in a computer network, comprising:

a client proxy device adapted to receive a request of a client data processing device to access at least one network server; and

a network connect module coupled to said client proxy device, wherein the network connect module, in response to said request, establishes a communication link including a data transmission link between the client proxy device and a proxy server coupled to the at least one network server.

2. The system of claim 1, further comprising a network server selector coupled to the client proxy device wherein the network server is selected using information included in the request from the client data processing device.

3. The system of claim 1, further comprising a network server selector coupled to the client proxy device wherein the network server is selected using information of a port at the client proxy device that received the request.

4. The system of claim 1, wherein the communication link between the client proxy device and the at least one network server includes at least one port of the client proxy device and at least one port of the at least one network server.

5. The system of claim 1, wherein

the network connect module is arranged to generate a list of assignments between at least one port of the client proxy device and at least one port of the at least one network server.

6. The system of claim 1, wherein the network connect module is arranged for retrieving mapping rules corresponding to the client proxy device and the proxy server, wherein the mapping rules include information on establishing the data transmission link between the client proxy device and the proxy server.

7. The system of claim 6, wherein the mapping rules further include address information of the at least one network server in the local area network.

8. The system of claim 6, wherein the network connect module comprises

a first sub-connection module including sub-mapping rules having connection information of at least one port of the client proxy device to at least one port of the proxy server; and

a second sub-connection module including sub-mapping rules having connection information of at least one port of the proxy server to at least one port of the at least one network server.

9. The system of claim 1, wherein the data transmission link between the proxy server and the client proxy device involves a secure communication via a public network.

10. The system of claim 1, wherein the request of the client data processing device to access at least one network server is authorized prior to establishing the communication link.

11. The system of claim 1, wherein the data transmission link between the client proxy device and the proxy server is established through a firewall restricting access to the local area network.

12. The system of claim 11, wherein the connection link further comprises

a first mapping module including mapping rules having connection information of a port of the client proxy device to a port of the firewall; and

a second mapping module including mapping rules having connection information of a port of the firewall to a port of the proxy server.

13. The system of claim 1, wherein the client data processing device is part of a client network and the data transmission link between the client proxy device and the proxy server is further established through a firewall restricting access to client network.

14. The system of claim 1, wherein the proxy server is located inside a firewall restricting access to the local area network from the outside.

15. The system of claim 1, wherein the proxy server is configured to allow access only to pre-selected network servers and services.

16. The system of claim 1, wherein the client data processing device further comprises a registration module containing designation information wherein the client proxy device is designated as a proxy enabling execution of an application that is proxy enabled.

17. The system of claim 1, further comprising a replacement module containing replacement information used when executing an application that is not proxy

enabled, wherein the name of a network server is replaced by the name of the client proxy device and a specified port associated with the client proxy device.

18. A method for enabling a user to access a local area network from a remotely located host in a computer network, comprising:

receiving at a client proxy device a data request from a client data processing device for data accessible from at least one network server;

establishing a data transmission link between the client proxy device and a proxy server connected to the at least one network;

establishing a communication link between the client proxy device and the at least one network server, wherein the communication link includes the data transmission link; and

authorizing at least one network server to serve the data request of the client data processing device.

19. The method of claim 18, wherein the at least one network server serving the data request is selected based on a port of the client proxy device receiving the data request.

20. The method of claim 18, wherein the at least one network server serving the data request is selected based on information included in the request.

21. The method of claim 18, wherein establishing the communication link between the client proxy device and the at least one network server includes a mapping of at least one port of the client proxy device to at least one port of the at least one network server.

22. The method of claim 21, wherein the mapping includes generating a list of assignments between the at

least one port of the client proxy device and the at least one port of the at least one network server.

23. The method of claim 22 further including retrieving a set of mapping rules, wherein the mapping rules include information on establishing the data transmission link.

24. The method of claim 23, wherein the mapping rules further include address information of the at least one network server in the local area network.

25. The method of claim 23, further including mapping at least one port of the client proxy device to at least one port of the proxy server; and mapping the at least one port of the proxy server to at least one port of the at least one network server wherein the mapping is executed in accordance with the retrieved mapping rules.

26. The method of claim 18, wherein the transmission between the proxy server and the client proxy device involves a secure communication via a public computer network.

27. The method of claim 18, wherein an authorization procedure to access the local area network is performed at the client data processing device.

28. The method of claim 18, wherein the data transmission link between the client proxy device and the proxy server is established through a firewall restricting access to the local area network.

29. The method of claim 28, further including mapping a port of the client proxy device to a port of

the firewall and mapping the port of the firewall to a port of the proxy server.

30. The method of claim 18, wherein the client data processing device is part of a client network and the data transmission link between the client proxy device and the proxy server is further established through a firewall restricting access to the client network.

31. The method of claim 18, wherein the proxy server is located inside a firewall restricting access to the local area network.

32. The method of claim 18, wherein the proxy server is configured to allow access only to selected network servers.

33. The method of claim 18, further comprising registering the client proxy device as a proxy at the client data processing device for executing an application that is proxy enabled.

34. The method of claim 18, further comprising replacing at the client data processing device the name of the at least one network server by the name of the client proxy device and a specific port of executing an application that is not proxy enabled.

35. A computer program product having stored thereon a method for enabling a user to access a local area network from a remotely located host in a computer network, the method comprising:

receiving at a client proxy device a data request from a client data processing device for data accessible from at least one network server in the local area network;

establishing a data transmission link between the client proxy device and a proxy server connected to the at least one network server in the local area network;

establishing a communication link between the client proxy device and the at least one network server, wherein the communication link includes the data transmission link; and

authorizing at least one network server to serve the data request of the client data processing device.

36. A computer system comprising:

a processor; and

a memory storing a method for enabling a user to access a local area network from a client device in a publicly accessible computer network and not directly connected to the local area network, wherein upon execution of said method on said processor said method comprises:

receiving at a client proxy device a data request from a client data processing device for data accessible from at least one network server in the local area network;

establishing a data transmission link between the client proxy device and a proxy server connected to the at least one network server in the local area network;

establishing a communication link between the client proxy device and the at least one network server, wherein the communication link includes the data transmission link; and

authorizing at least one network server to serve the data request of the client data processing device.

37. The system of claim 36, wherein the at least one network server serving the data request is selected

based on a port of the client proxy device receiving the data request.

38. The system of claim 36, wherein the at least one network server serving the data request is selected based on information included in the request.

39. The system of claim 36, wherein establishing the communication link between the client proxy device and the at least one network server includes a mapping of at least one port of the client proxy device to at least one port of the at least one network server.

40. The system of claim 39, wherein the mapping includes generating a list of assignments between the at least one port of the client proxy device and the at least one port of the at least one network server.

41. The system of claim 40 further including retrieving a set of mapping rules, wherein the mapping rules include information on establishing the data transmission link.

42. The system of claim 41, wherein the mapping rules further include address information of the at least one network server in the local area network.

43. The system of claim 41, further including mapping at least one port of the client proxy device to at least one port of the proxy server; and mapping the at least one port of the proxy server to at least one port of the at least one network server wherein the mapping is executed in accordance with the retrieved mapping rules.

44. The system of claim 36, wherein the transmission between the proxy server and the client

proxy device involves a secure communication via a public computer network.

45. The system of claim 36, wherein the request of the client data processing device to access at least one network server is authorized prior to establishing the communication link.

46. The system of claim 36, wherein the data transmission link between the client proxy device and the proxy server is established through a firewall restricting access to the local area network.

47. The system of claim 46, further including mapping a port of the client proxy device to a port of the firewall and mapping the port of the firewall to a port of the proxy server.

48. The system of claim 36, wherein the client data processing device is part of a client network and the data transmission link between the client proxy device and the proxy server is further established through a firewall restricting access to the client network.

49. The system of claim 36, wherein the proxy server is located inside a firewall restricting access to the local area network.

50. The system of claim 36, wherein the proxy server is configured to allow access only to selected network servers.

51. The system of claim 36, wherein the method further comprises registering the client proxy device as a proxy at the client data processing device for executing an application that is proxy enabled.

52. The method of claim 36, wherein the method further comprises replacing at the client data processing device the name of the at least one network server by the name of the client proxy device and a specific port of executing an application that is not proxy enabled.

53. A system for enabling a user to access a local area network from a remotely located host in a computer network, comprising:

a client proxy device coupled to and adapted to exchange data with a client data processing device upon a request of the client data processing device to access at least one network server in the local area network; and

a connection module for establishing a communication link between the client proxy device and the at least one network server upon the request of the client data processing device, wherein the communication link includes a data transmission link between the client proxy device and a proxy server device coupled to the at least one network server, and the connection module selects at least one network server in the local area network based on the request.